Missouri Department of Natural Resources

Response to Tire Fires

Solid Waste Management Program Technical Bulletin 2/2006

This document provides guidance and information to Missouri Department of Natural Resources staff and local fire departments regarding response to tire fires.

Who needs to be contacted?

- Local Emergency Response Authority 911
- Missouri Department of Natural Resources
  Environmental Emergency Response…. ..... (573) 634-2436 (24 hrs / 7 days)
- State Fire Marshall's Office 1-800-877-5688
- U.S. Environmental Protection Agency (EPA) .....(913) 281-0991
- Local Emergency Planning Commission .....see blue pages of your telephone directory

What are the roles of each agency?

- Department of Natural Resources and Environmental Protection Agency (EPA) staff will direct efforts related to environmental impacts of the fire and will advise whether to allow the tires to continue to burn or to attempt suppression.
- Local fire departments will direct efforts related to containing, suppressing and extinguishing the fire.
- State Fire Marshall's Office staff will direct and conduct any investigation efforts as to the cause of the fire.
- Local Emergency Planning Commission will address local public safety concerns.
- The department's Environmental Emergency Response staff will contact other applicable department offices, including the Solid Waste Management Program and the appropriate Regional Office. Department staff will maintain surveillance of the site until the fire is under control and visit the site periodically until the fire is completely extinguished. Department staff will answer media and public inquiries on the enforcement status of case and coordinate with the Missouri Attorney General's Office as needed.

What on-site actions need to be taken?

- Isolate non-burning tires. Physically isolate non-burning tires from burning tires and create fire lanes to prevent the fire from spreading. Let burning tires continue to burn as freely as possible. Use heavy equipment such as front-end loaders, track excavators, and mid-sized bulldozers to clear fire breaks to a width of at least 60 feet, if high wind is a factor, increase lane widths accordingly.

- Consider evacuating nearby residents and businesses. At the onset of a tire fire, people in the immediate area may need to be evacuated. Tire fires produce incomplete combustion products, particulates and dense smoke containing a wide range of pyrolytic hydrocarbons and ash residues that can pose environmental and human health concerns.

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- Construct containment berms. Establish berms as soon as possible to contain pyrolytic runoff. Berms can be constructed from a variety of materials. Dirt is the most common. In one case, firefighters stacked columns of tires alongside each other and covered them with tarps and soil to form a dike. Suppression substances become contaminated by contact with the products of a tire fire. Collect all runoff as much as possible. The oil can be skimmed off, and the residual water recycled for use on the incident. The oil runoff should be handled as waste oil.

- Fire suppression. The best choice for fire suppression is to use fog and peel. Constant pressure fog nozzles have proven more effective than solid streams. Burning sections of rubber can be pulled off the pile, isolated and effectively extinguished using hand lines set on fog pattern. Do not use water as a suppressant unless necessary to protect human health, off-site property and firefighting equipment. Water runoff from tire fires can contaminate surface and groundwater, potentially causing well contamination and killing fish.

  If fog and peel is not possible, use soil or other fill material to smother the fire. In many cases this may be the only effective means. Even when completely covered, it is estimated that tire fires can continue to smolder deep in the base of the pile for weeks, requiring continued observation and monitoring.

- Protect exposures. Buildings, equipment and other exposures should be protected with direct application of water, possibly mixed with foam or other water additives. Fog patterns use less water, resulting in less runoff and reducing potential contamination.

This document was derived, in part, from *Guidelines for the Prevention and Management of Scrap Tire Fires*, developed by the International Association of Fire Chiefs and the Scrap Tire Management Council.

For more information

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